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AeroSpace Frontiers

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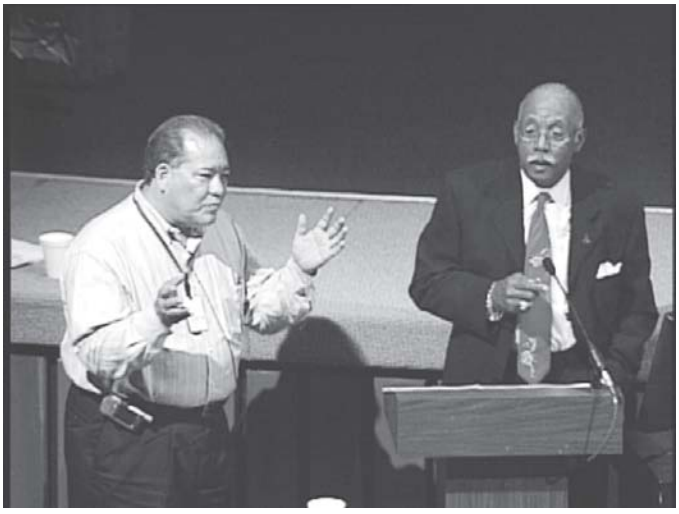
Director holds All Hands

BY S. JENISE VERIS

On October 6, Center Director Dr. Julian Earls held an All Hands meeting to share information on Agency initiatives and Center actions and to respond to employees' questions.

Helping the Agency reshape its workforce to implement the President's Vision for Space Exploration continues to be one of the Center's top priorities. Earls noted those Centers which have an excess of work assignments are developing work packages for centers like Glenn that have uncovered full-time equivalents (FTEs). These centers also are assessing the work performed by their contract employees to determine if these assignments could be performed by civil servants without interruption to service or product delivery.



Deputy Director Christiansen and Director Earls share information on Center priorities and activities during the All Hands.

These activities are part of an overall plan to address the Agency's workforce issues, along with voluntary transfers, early outs, and buyouts. Earls discussed the complexity of the reduction in force (RIF) process, noting it can take as long as 18 months to plan and implement.

Earls stressed that to secure additional funding for the Center, all levels of Glenn management and staff have been working aggressively with Agency Mission Directorates to share information about the Center's capabilities in relationship to their needs.

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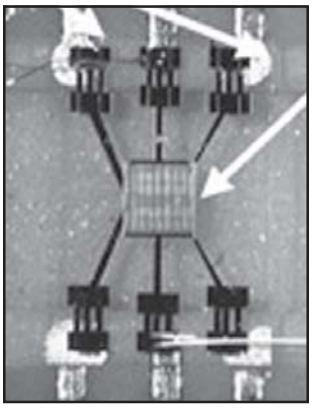
Glenn receives four TGIR awards

Cleveland's Great Lakes Science Center proved to be an ideal backdrop for recognizing outstanding technology in the form of Turning Goals Into Reality (TGIR) Awards presented there on October 25. The awards, sponsored by NASA's Aeronautics Research Mission Directorate, highlight technologies that will enable revolutionary capabilities in aeronautics, space transportation, and scientific exploration, and those who made them possible.

Once again, Glenn was the Agency's top winner, garnering four of eight TGIR awards. Brief descriptions of those award-winning technologies follow:



Associate Administrator's Choice Award: *False Alarm Resistant Fire Detection for Remote Cargo Compartments Team.* A microelectricmechanical systems sensor technology for detecting multiple types of combustion gases that normally accompany a fire's smoke was developed to help reduce false alarms and costs related to stress and safety for exercising unnecessary emergency procedures. Analyzed results led to a new commercial

Continued on page 8

Fire detection tests were conducted with this micro scale carbon monoxide sensor that uses a nanocrystalline tin oxide detector (center).

Inside

Astronauts bestow personal honors on employees

NASA's Space Flight Awareness Program recently recognized Glenn employees (civil service and support service contractors) for their contributions to flight safety and mission success.

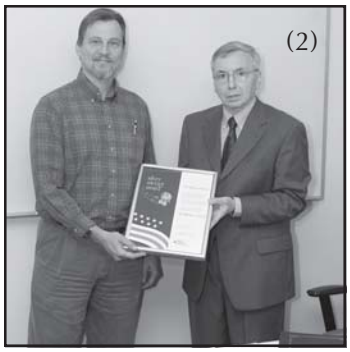
On September 30, Astronauts Carl Walz and Michael Good visited Glenn to present Silver Snoopy Awards—the astronauts' personal tribute to individuals whose single effort or long-term outstanding performance contributed to flight safety and mission success. The honor included a surprise visit by the astronauts to the employees' work sites. During the visit, each recipient was presented a sterling silver Snoopy lapel pin that was flown on STS–98, plus a certificate of appreciation and commendation letter, both signed by the astronaut. A luncheon followed in the Administration Building Auditorium.

On October 20, Glenn's Associate Director Robert Fails bestowed the honor on employees who were unable to attend the September event. A total of 15 individual Silver Snoopy awards were presented on both days.

The Silver Snoopy recipients include:

C-2005-1404 Photos by Quentin Schwinn

C-2005-1405

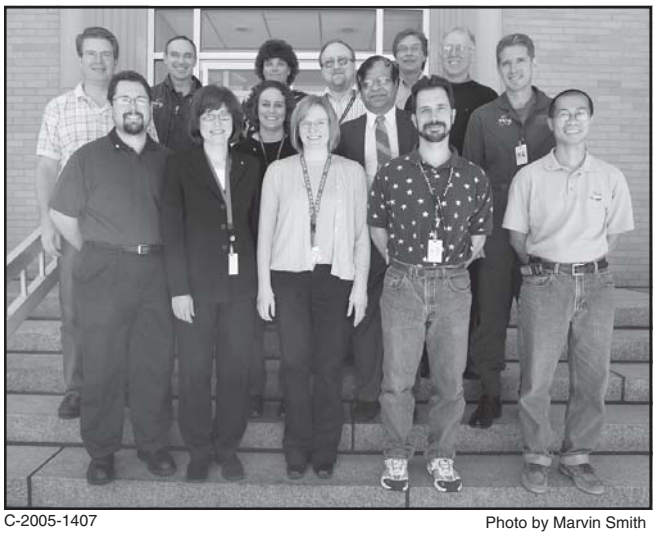


Sharon (Ambro) Reinke, HEI/Exploration Systems Division, served in the dual roles of systems engineer and operations engineer for the Fluids and Combustion Facility (FCF).

Frank Gati, Exploration Systems Division, as the project manager, provided technical leadership in the successful completion of the Fluids Integration Rack (FIR), overseeing the development of FIR and common hardware for the FCF.

Jeffrey Hojnicki, Power and Communication Systems Analysis Office, conceived and led the development of the International Space Station (ISS) Electrical Power System (EPS) analysis capabilities at NASA.

Warren Holt, HEI/Exploration Systems Division, was crucial in the development of the designs for both the Combustion Integrated Rack (CIR) and the FIR crew training units (CTUs), working as a design and fabrication technician as well as an integration technician.



C-2005-1407 Photo by Marvin Smith

Silver Snoopy individual award recipients pictured prior to the luncheon on September 30, left to right, back row, O'Malley, Astronaut Walz, Tenteris-Noebe, Hojnicki, Holt, Thesken; middle row, Neff, Murthy, Astronaut Good; front row, Padula, MacKay, Reinke, Gati, and Vannuyen.

(1) Associate Director Bob Fails, left, and Acting Deputy Director, Programs and Projects Sandy Reehorst, right, presented a Silver Snoopy to Imburgia on October 20. (2) On the same day, Fails presented a Silver Snoopy to Lerch. (3) Astronaut Good, left, presented a Silver Snoopy to Sullivan on September 30.

C-2005-1408

James Imburgia, HEI/Exploration Systems Division, participated in the design and assembly of the CIR and the FIR CTUs delivered to Johnson Space Center. These will be used to prepare ISS flight crews in the on-orbit operations and maintenance of the corresponding FCF flight units.

Dr. Bradley Lerch, Life Prediction Branch, developed and coordinated investigations on the characterization of ice, which led to the development of predictive models for describing debris impacts on the shuttle external tank and orbiter wing leading edge thermal protections systems.

Dr. Rebecca MacKay, Materials and Structures Division, served as lead materials consultant for the NASA Engineering and Safety Center (NESC) on the cracking issue in the niobium Reaction Control System thrusters that are used to perform attitude and translation maneuvers in space for the space shuttle orbiter.

Dr. Pappu Murthy, Life Prediction Branch, served as lead for the structures team performing safety assessment of Composite Overwrapped Pressure Vessels (COPVs) on board the space shuttle. This activity was sponsored by the NESC.

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Silver Snoopy, Space Flight Awareness honorees

C-2005-1410 Photo by Marvin Smith

Impact Testing Quality Assurance Team members pictured with Astronauts Good, left, and Walz, right, are pictured left to right, Capelety, Gaydos, and Tenteris-Noebe. Not pictured: Berg and Jackson.

C-2005-1404 Photo by Marvin Smith

C-2005-1406

Impact Testing Imaging and Non-Destructive Evaluation Team members, pictured with Astronauts Good and Walz, are Bodis, Cosgriff, Martin, Murphy, and Tate. Not pictured: Reich. Insert photo: Associate Director Bob Fails presented the SFA award to Schwinn on October 20.

Continued from page 2

Terence O'Malley, Exploration Systems Division, oversaw all aspects of the development of the CIR for the FCF, including requirements formulation, flight hard-ware design, manufacture, integration, testing, and verifications.

Tracy Neff, HEI/Explorations Systems Division, served as lead engineer for the FCF CTU development team, ensuring that all CTU mechanical interface and operational elements designed were flightlike and of the highest fidelity for superior training support.

Dr. Santo Padula, II, Advanced Metallics Branch, was responsible for several extensive impact test programs on the space shuttle external tank and orbiter wing leading edge thermal protection systems to assess potential impact damage from launch debris.

Dr. Roy Sullivan, Life Prediction Branch, was instrumental in the resolution of flight safety issues related to the ply lift phenomena in the space shuttle's solid rocket motor (SRM) nozzle insulation. His analysis of the shuttle's SRM exit cone helped to solidify flight safety rationale for STS–114 and subsequent Shuttle flights.

Dr. Anita Tenteris-Noebe, SAIC/Quality Management Office, was responsible for an extensive impact test program on reinforced carbon-carbon panels to assess the damage to orbiter wing leading edges from the space shuttle external protection foam and ice and to validate impact analysis models under development.

Dr. John Thesken, OAI/Life Prediction Branch, worked as a member of the NESC on the COPVs, deriving an analytical formula to simulate the fundamental mechanical response of COPVs.

Thomas Vannuyen, Mechanical and Rotating Systems Branch, worked on three critical tasks—shuttle cable tray test, wind tunnel test bellows, and rudder speed brake gear scuffing Test—related to the STS–114 Return to Flight mission.

Two Glenn teams were recognized with Space Flight Awareness (SFA) awards on September 30 for their Return to Flight contributions. The SFA Team Award is presented to a group of employees who have demonstrated exemplary teamwork while accomplishing a significant task or goal in support of NASA's space flight programs.

Impact Testing Imaging and Non-Destructive Evaluation Team
James Bodis, Laura Cosgriff, and Richard Martin, CSU/Optical Instrumentation and NDE Branch; Michelle Murphy, Quentin Schwinn, Peter Tate, and Vincent Reich, RSIS/Logistics and Technical Information Division

As part of NASA's Return to Flight effort, this team provided critical imaging support to the Glenn Ballistic Lab impact test program on panels of reinforced carbon-carbon orbiter wing leading edge material to assess potential impact damage from debris such as ice and various thermal protection foams that might shed from the external tank during the space shuttle's ascent.

Impact Testing Quality Assurance Team
Chris Berg (now at NASA Kennedy), Mike Capelety, Tim Gaydos and Bruce Jackson (SAIC), Risk Management Office; Anita Tenteris-Noebe, SAIC/Quality Management Office

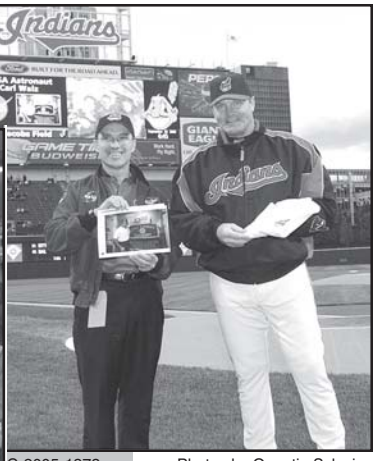
In support of NASA's Return to Flight effort, this team was recognized for their contributions in providing exceptional quality oversight. Due to the critical nature of the testing on reinforced carbon-carbon and external tank panels conducted in the Glenn Ballistic Impact Laboratory, stringent quality assurance controls were essential for all aspects involving testing, documentation, and data collection.

SFA awards, sponsored by the Office of Space Flight and the NASA-Industry-SFA Panel, are the highest and most prestigious awards available to employees. The SFA program is integral in promoting and recognizing those across the Agency who advance and support the Vision for Space Exploration. Additional information about the program can be obtained through Monica Palivoda and Lynne Wiersma, Glenn's SFA program coordinators at 216–433–2782. ◆

News and Events

NASA night a hit

Astronaut Carl Walz, a Cleveland native, threw out a ceremonial first pitch during NASA Glenn night at the Cleveland Indians game against the Tampa Bay Devil Rays on September 29. Hundreds of Glenn employees looked on while Walz presented Indians Manager Eric Wedge with a Cleveland Indians shirt Walz wore while onboard the International Space Station. During the game, EVA, the larger-than-life inflatable astronaut, joined Slider in entertaining the fans.



C-2005-1373 Photos by Quentin Schwinn

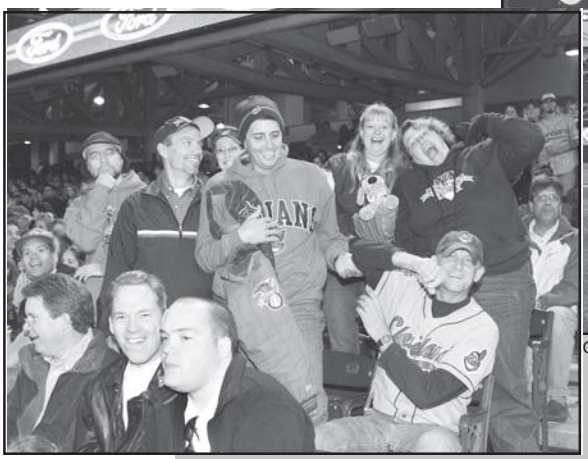


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Photo by Ahmed Abumeri

Safety awareness and dialogue

Glenn's Safety Branch held a Safety Awareness Day and Dialogue event on October 11. Deputy Director for Safety and Mission Assurance Rafael Sanabria kicked off the event, followed by presentations on safety culture, fire protection, a fire safety video, fire safety in the home, and Incident Reporting and Information System (IRIS). Pictured are David Forth, program manager, and Michael Dyke, safety engineer, SAIC/Safety Branch, who provided information on the American Society of Safety Engineers, a professional society dedicated to the advancement of safety and health in the workplace.

RTF thank you

Glenn's Community and Media Relations Office (CMRO) hosted a celebration luncheon on October 12 for employees who contributed to the STS–114 Return to Flight outreach activities. About 30 civil service and support service contract employees were recognized for their efforts in engaging the local community and the media in the essential work that NASA Glenn researchers performed in returning the space shuttle to flight. Pictured is Angel Otero, Space Operations Division, receiving a certificate of appreciation, with, left to right, Katherine Martin, CMRO; Sandy Reehorst, acting deputy director, Programs and Projects; and Linda Dukes-Campbell, chief, CMRO.

Photo by Doreen Zudell

Photo by Doreen Zudell

Managing stress

Employees are discovering simple ways to deal with stress and anxiety through guided relaxation, stretching, and meditation techniques during the "Managing Stress Using Relaxation Techniques" seminars held on Thursdays from 9:45 to 10:30 a.m. in the Small Dining Room. The sessions are being offered free and on a first-come, first-serve basis through December 22. Point of contact: Tom Spicer, 3–2762. Pictured is certified yoga instructor Tammy Lyons leading participants in a stretching exercise.

Center Director's Message


Dr. Earls

Working through the threat of a RIF

Since May, when Glenn's leadership team announced the Center needed to begin planning for the possibility of a Reduction In Force (RIF), employees have expressed a number of concerns and asked a number of questions related to the process.

As I've stated several times, a RIF continues to be a last resort in helping to achieve the Agency's workforce transition efforts. Since the President's budget request was released in February, numerous activities have been taking place to lessen the severity of a workforce reduction. During the All Hands meeting in October, Deputy Director Rich Christiansen and I reviewed how the Center is actively pursuing additional funding and work, as well as what roles Glenn has secured thus far. This year's planning process is challenging as detailed formulation of Exploration mission projects has only been underway since late August and Aeronautics re-planning is still underway. As of this writing, nearly 80 percent of our work for these missions lack detailed plans. Many people are working very hard to ensure that this Center remains healthy and vibrant.

Because the RIF process is so complex, we have enlisted the help of the Office of Personnel Management (OPM) to advise us. With their assistance, we have already held several employee information sessions aimed at providing a general overview of the RIF process. OPM also has supplied an Employee Guide to RIF to help answer as many questions as possible.

All employees should understand that if a RIF occurs, this action does not in any way reflect on the employee personally. Once positions that will be required in a post-RIF organization have been identified, RIF regulations determine individual employee placements. It's only natural that the number one question employees are asking is "Will I get RIF'ed?" Unfortunately, this is a question that cannot be answered at least until sometime in 2006. In addition, employees who currently charge time to unfunded tasks are wondering, "Am I more vulnerable?" The answer to this question is not necessarily. The task number that employees charge their time to does not impact their ranking in a RIF. There is a separate process that the Center will use to identify positions that will not be required for the future.

It is important to understand that a RIF process is one of constant change. I am concerned about our employees' stress and anxiety due to our uncertain future. I encourage all employees to take advantage of the onsite employee services available (fitness center, medical services, counseling services, and the Career Transition Assistance Program). In addition, we are planning other activities to assist employees, such as weekly stress management seminars sponsored by the Office of Human Resources and Workplace Planning that are currently underway.

In closing, I am very proud of Glenn's strong work ethic despite these challenging times. Our employees will continue to be our best asset as we forge ahead.

News Notes

LESA MEETING: LESA/IFPTE, Local 28, will hold its next monthly membership meeting on Wednesday, November 9, at noon in the Employee Center,

VETERANS AWARENESS EVENT: Glenn's Veterans Awareness Committee (VAC) is sponsoring a presentation by News Channel 5 anchor Leon Bibb on November 10, at 1 to 2 p.m. in the DEB Auditorium. Bibb will address the topic of Vietnam—35 years later. While the VAC is committed to honoring all veterans, focus on the Vietnam conflict will commemorate the 35th anniversary of the end of American involvement.

NATIVE AMERICAN HERITAGE EVENT: The 2005 Glenn Native American Indian Observation will be held on Thursday, November 17, from 9:30 to 11:30 a.m. in the DEB Auditorium. Ronald His Horse Is Thunder, an active member of the Hunkpapa-Lakota Oyake (people) and past president of the Sitting Bull College, will be the keynote speaker. The theme is "Pathways to a Stronger Community." Point of contact: George Harpster, 3–3796.


His Horse is Thunder

WOMEN RETIREE LUNCHEON: The next luncheon for Glenn/Lewis female retirees will be Thursday, November 17, noon, at Mapleside Farms Restaurant, 294 Pearl Road, Brunswick. For further information, please contact Kathy Webb, 440–845–5286.

ART EVENTS AT GLENN: On Saturday, November 19, Glenn's Visitor Center (VC) will present "NASA Art." The VC auditorium will be transformed into an art gallery featuring original works. Invite your friends and family to come to learn how artists are conveying the history and future of exploration. Featured presentations include former Glenn artist Les Bossinas' discussion of creation of past works; DancEvert's performance of "Confluence," a collaborative dance with NASA demonstrating the aeronautic states of balance and turbulence; and demonstrations of art and design by Glenn's graphic artists. Bossinas will speak at 11 a.m. and the dance performance will take place at 1:30 p.m. Employees can attend a performance of "Confluence" on Friday, November 18, at 11 a.m. in the Administration Building Auditorium. Point of contact: Mike Blair, 3–9652.

Hispanic Heritage Awareness Month

Pursuing their dreams

BY S. JENISE VERIS

The musical artistry of guitarist Noel Caraballo and dance performed by Grupo Isla del Encanto set the tone for the high-spirited keynote address by Lorraine Vega, senior vice president of Corporate Diversity at KeyCorp, Cleveland, during Glenn's Hispanic Heritage Month Observance celebration.

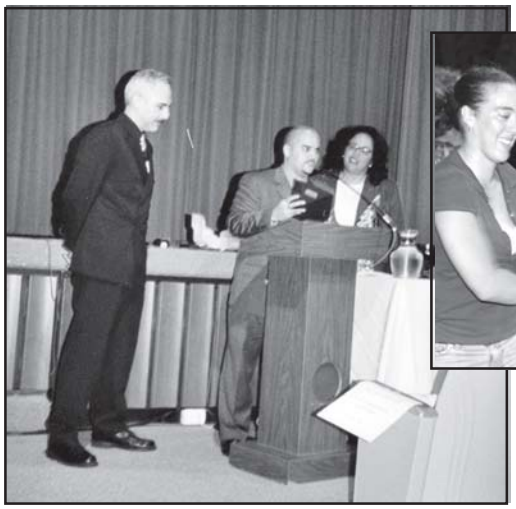
Reflecting on the lyrics of Caraballo's song of migration, Vega reminded the audience that the Hispanic heritage is reflected in 21 countries with roots in Africa, Spain, Central America, South America, and the Caribbean, in addition to the diverse influence of Italian, Russian, German, British, and Chinese settlers in those areas. While each of these countries add different dimensions in defining the Hispanic profile, Vega believes the unifying characteristics of those who have put down their roots in America are a strong work ethic, honor, and respect.

Vega weaved together personal observations, military statistics, diversity surveys, and census reports to relate the characteristics, contributions, and leadership potential of "Hispanic Americans: Strong and Colorful Threads in the American Fabric."

"I grew up listening to many stories of loyalty, courage, and honor, where Latinos made what appeared to be a limiting situation for some into an opportunity for leadership," Vega said. "With the changing face of America (brought on by increases in minority populations and global business), there can and will be more Hispanic leaders."

Vega thanked NASA for its contributions to creating an environment for success in the Hispanic community, citing Glenn's support to Esperanza and recruiting efforts as "innovation at its best." She encouraged the Center's continued focus on education and efforts to communicate the work being done for informed advocacy.

Glenn's Hispanic Advisory Council (HAC), with the support of the Office of Equal Opportunity Programs, presented this year's program. ◆



Pictured, left, HAC cochairs Daniel Rodriguez and Carlos Gomez present a plaque of appreciation to Vega. Pictured, above, Jessica Sanabria, daughter of Raphael Sanabria and Olga Gonzalez-Sanabria, along with Ramon Lebron and Hector Dominguez, center, enjoy HAC's popular Fiesta earlier this year.

Cut fuel costs through alternative commuting

Is the cost of your commute to and from work becoming a financial burden? As fuel costs continue to rise, employees may want to consider alternative modes of transportation, such as rail, bus, or bike.

"Currently, approximately 95 percent of Glenn employees drive alone in their car to work, and there are some households where two or more employees drive to work separately," said Mark Kilkenny, business analyst in the Office of Strategic Management. "But they may be interested in learning about money-saving alternatives to 'driving-single' to work."

The Rapid Transit Authority (RTA) Bus 78 is a viable option for employees living in West Cleveland. Employees living in Lakewood and Berea can easily transfer to Bus 78 from Bus 86. Employees living in Lakewood, West Cleveland, Brook Park, and Middleburg Heights can transfer to Bus 78 from Bus 70. Employees riding the RTA Rapid Red Line can get to the Center by riding the train to the Puritas Station, and then transfer to Bus 78. For more information on RTA bus or train services, contact Kilkenny at 3–8567 or visit the RTA Web site at http://www.gcrta.org/.

While riding the bus usually takes twice the time as driving, the price is right. Civil servant employees are eligible for FREE RTA bus/rail fare cards. Civil servants should contact Timothy Debth, Logistics and Technical Information Division, at 3–5004 to obtain free fair cards.

People who live more than half an hour away from the Center may want to consider car or vanpools. The Northeast Ohio Areawide Coordinating Agency sponsors a countywide rideshare network that operates a carpool/vanpool match list and funds a Guaranteed Ride Home Program. Call 1–800–825–RIDE for details.

Riding a bicycle may be a moneysaving (and healthy) alternative to driving. However, cyclists need to consider a few variables besides their cycling ability and the condition of their bicycles, namely weather, daylight, visibility, and traffic. For information on bicycle routes to Glenn, contact Kilkenny or Fred Oswald, Mechanical Components Branch, at 3–3957 or visit the GO-BIKE Web at http://www.grc.nasa.gov/WWW/AdvisoryGroups/GO-BIKE/BikeRoute.html.

Flight research: Taking stock of a valuable resource

BY S. JENISE VERIS

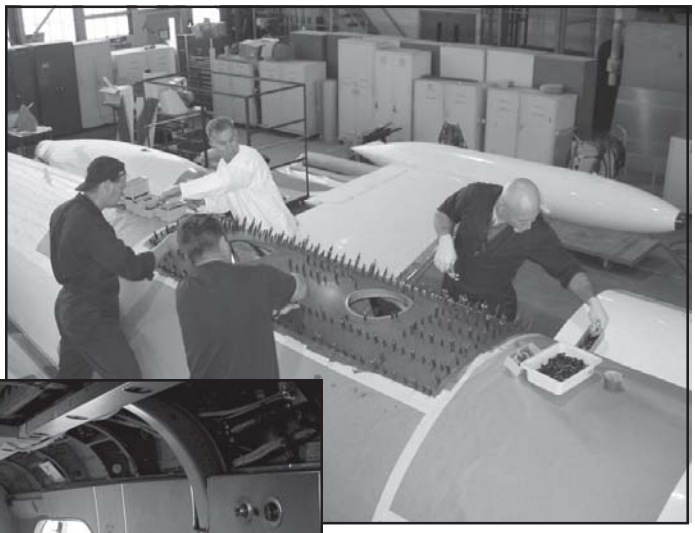
While Glenn's Aircraft Operations Office past accomplishments supporting icing and solar cell research is widely recognized, more recent work validates its continuing importance as a resource for NASA missions and other Government agencies.

The flight team recently collaborated with the Air Force Research Laboratory (AFRL) at Wright-Patterson Air Force Base (WPAFB) on the in-flight evaluation of the phasorBIRD™ head tracker system, part of a synthetic vision device for advanced fighter aircraft being developed by Ascention Technology Corporation of Burlington, VT. The goal was to assess and improve the system's vulnerability to environmental conditions such as ambient light and vibrations experienced at different altitudes and light angles during maneuvering flight.

"We chose Glenn because they were close, inexpensive, and accommodating," said Mike Sedillo, AFRL's principal investigator for the optical head-tracker system program. "It's a one-stop-shop operation with in-house design, modification, and flight safety analysis capabilities as well as the availability of qualified research pilots, ground support, and a variety of aircraft."

Working to the specifications of AFRL's Helmet Mounted Systems Technology team, Glenn's engineering effort was led by Mike Ernst, who designed a replacement for the rear cargo door on the NASA Twin Otter. The opening was fitted with a clear acrylic panel to replicate the optical characteristics of a fighter cockpit. The lead project pilot, Jim Demers, with maintenance chief, Bud Schutte, and crew chiefs, Mike Krinov and Phil Beck, directly supported this effort both at Glenn and WPAFB.

Glenn enjoys a long-term relationship with the AFRL dating back to work on developing voice recognition in aircraft and 3–D audio. AFRL has committed to future projects utilizing the S–3 Viking, a recent addition to Glenn's Hangar.



Below: Mike Ernst, left, and Garry Huber test qualify modifications and equipment on the Otter before delivery to AFRL.

Photos by Ed Emery

Above: Dan Gorman, far right, and Steve Hayes, not pictured, lead the "operation" modifying the Lear 25 in support of the NAIMS Program. Two 10-inch portholes were cut out of the fuselage and fortified with 1700 rivots fabricated and installed in-house by, left to right, Steve Hughell, Ken Ulicny, and Jerry Anschuetz.

The S–3 is a former Navy fighter jet, which houses a variety of equipment that could be used for test platforms.

Word of Glenn's flight research capabilities is spreading and is responsible for what the team has determined was a threefold increase in their requests for support over the past year.

Ongoing support to Glenn's Solar Cell Calibration Program, Engine Noise Reduction Program, and various projects funded by NASA's Aviation Safety and Security Program such as Weather Information Communications, make up the bulk of the work requiring research flight operations.

In addition, Glenn is currently in the second phase of collaboration with Ames and Dryden on another project called NASA Aircraft Infrared Measurement System (NAIMS).

"We were required to modify our Lear 25 within 120 days based on the geometry of a Lear 24," explained William Rieke, Glenn's Aircraft Operations chief. "It was all done in-house, saving time and money, and we helped them meet their milestone."

Rieke said that Glenn might never have pursued several of these projects without Ernst. His expertise was also requested for a team Ames assembled to review and make recommendations on a major airframe modification to their 747 supporting NASA's new SOFIA telescope. Ernst earned an Ames Safety Award for these efforts.

According to Director of Engineering and Technical Services Olga Gonzalez-Sanabria, "The Glenn aircraft operations team has proven time after time that they are a customer-focused organization, which is cost effective, safe, and efficient, and that their expertise contributes to the research testing capability they support."

For more information on aircraft available for testing and Glenn's Aircraft Operations Office capabilities, visit http:/www.grc.nasa.gov/WWW/ETSD/7040/◆

NASA Awards recognize outstanding technology

Continued from page1

product called, Multi-Parameter, Micro-Sensor-Based Low False Alarm fire Detection System.

Protect the Environment: *Ultra-Efficient Engine Technology Project Component Demonstrations Team.* Glenn, in partnership with industry, developed, matured, and demonstrated many critical propulsion technologies that will enable a fleet of environmentally friendly aircraft for the future. These technologies have been successfully incorporated into engine components, realizing 70 percent NOx reduction and 10 percent CO^2 reduction.

Partnerships for National Security: *Virtual Mission Operations Center Demonstration Team.* Glenn identified areas in which NASA's development of mobile network technologies might be transferred and integrated into a communication system of mutual benefit to the Department of Defense (DOD). DOD found it can meet security and survivability requirements necessary for battlefield environment, while the same system supports NASA's Next Generation Air Transportation System by enabling secure access to aviation information.

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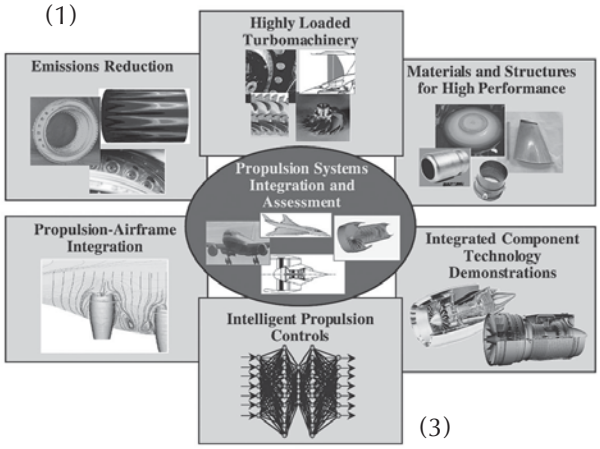

(1) Critical propulsion technologies developed, matured, and demonstrated by the UEET team will enable a fleet of environmentally friendly aircraft. (2) Mobile network technologies can be transferred and integrated into various communication systems. (3) MAEL instructor Craig Frohman, PATL/ Educational Programs Office, assists a student at the Flight Simulator Workstation.

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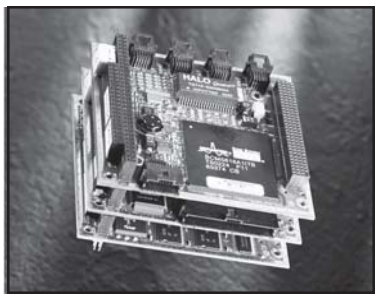


(3)

Inspire Students, Engage Public: *The Mobile Aerospace Education Laboratory (MAEL) Team.* Glenn managed 24 site visits of the 53-foot MAEL trailer that houses 10 unique workstations, complete with NASA technologies and hands-on activities. The MAEL is designed to engage the interest of underserved students, teachers, parents, and the community in science, technology, engineering, and mathematics. ◆

Expedition12 crew new residents on ISS; Glenn experiment extended

Two veteran crewmembers make up the Expedition 12 (Exp 12) crew aboard the International Space Station (ISS). Their mission marks the fifth anniversary of uninterrupted human presence on the orbiting laboratory since November 2000.

NASA Astronaut William McArthur, a retired Army colonel, serves as Commander and Russian Cosmonaut Valery Tokarev, a Russian Air Force colonel, serves as Exp 12 flight engineer and Soyuz commander.

During their 6-month mission, McArthur and Tokarev expect to perform at least two spacewalks. The first is planned early this month to move their Soyuz spacecraft from the Russian Pirs docking port, so it can be used for the spacewalks. On December 23, the crew expects to oversee the arrival of a new unpiloted supply ship, the 20th Progress vehicle, bearing fuel, equipment, supplies, water, oxygen, and air, just in time for Christmas.

While station maintenance will occupy considerable time, science-oriented education activities, Earth observation, and scientific experiments, both with and without crew involvement, will continue. Due to surprising results during Exp 10, activity on Glenn's Binary Colloidal Alloy Test–3 (BCAT–3) experiment has been extended. McArthur will pick up where Exp 10's Leroy Chiao left off. McArthur will photograph colloids, tiny nanoscale spheres of particles suspended in a variety of fluids, to document their behavior—crystal formation or phase separation—in the absence of gravity, where effects of sedimentation and convection are removed.

A more detailed article on BCAT–3 can be viewed on Glenn's Web portal. Visit http://www.nasa.gov/centers/glenn/home/index.html. ◆

All Hands provides updates on Glenn activities, actions

Continued from page1

Deputy Director Rich Christiansen provided an update to employees on possibilities of future Glenn work based on the Exploration Systems Architecture Study and other studies determining the Agency's roadmap for transition.

"We have the lead for LOX/Methane propulsion system to launch us to Mars. This is a critical element in the overall architecture," Christiansen said. "We also have a part of the work on the launch vehicle proposal. Our service module proposal is still being reviewed."

Christiansen identified six initiatives that are the foundation of an initial strategy to market Glenn's core competencies: Supersonics, Nuclear Power and Propulsion, Space Systems, In-Space Chemical Propulsion and Planetary Surface Systems, Hypersonics, and Breakthrough Energy Generation and Storage. He also added that the absence of other technologies was not an indication that they had fallen off Glenn's radar screen; rather, our Center needs to prioritize its focus on what resources will be required over the long term.

Earls continued the meeting by citing how the Center's Leadership Observation and Feedback Team (LOFT) is a proven investment in time and energy, based on Glenn's improved position among the "Best Government Places to Work" survey conducted by the U.S. Office of Personnel Management. He said the commitment of management and employees to the LOFT process are vital to the future of the Center.

He also acknowledged the efforts of employees who responded to a request for ideas as to how the Center might reduce overhead. Chief Financial Officer Bruce Ward added that a number of employee suggestions have accounted for more than $500,000 in potential savings.

During his remaining months at Glenn, Earls promised to continue to aggressively seek to establish an agenda that ensures the Center's future.

"The arrival of Dr. Woodrow Whitlow will be a plus-plus for the Center," Earls said. "Woodrow has unquestionable technical competence in aeronautics, and now in space flight, based on his interaction and contacts at Kennedy—all assets that should spell success during his tenure at Glenn." ◆

Glenn's customers have their say

NASA Glenn's external customers are satisfied with its research products and services, according to a recent survey taken by Opinionation, a Cleveland-based polling organization.

Opinionation conducted the third biennial telephone survey of Glenn's customers this summer to identify performance trends and to obtain specific feedback on how the Center can improve. Two hundred twelve officials in organizations that receive Glenn's research, products, or services participated in the survey. One quarter of

Continued on page 10

One NASA battery team

The Agencywide participants of the NASA Aerospace Flight Battery Systems Program Team were formally recognized as Glenn's "Center Best in 2005 One NASA Peer Awards," during a recent visit to the Center for a Battery Program Review Meeting.

The team received a One NASA Team award earlier this year for ensuring the quality, safety, reliability, affordability, and performance of flight battery systems for NASA missions, while establishing the foundation that enables the infusion of validated technology into future missions. (For more details on the award, see the May 2005 *AeroSpace Frontiers*.)

C-2005-1377 Photo by Michelle Murphy

Pictured, left to right, Olsen, Gonzalez, Darcy, Manzo, Reid, Bugga, Rao, Miller, and McKissock. Not pictured: Brewer and Selee.

Center Director Dr. Julian Earls recognized the individual efforts of the team members and presented the Center Best certificates to Glenn's Michelle Manzo (lead), Thomas Miller, Barbara McKissock, Concha Reid, and Jacquelyn Selee. Other NASA team members include Eric Darcy, Johnson Space Center; Ratnakumar Bugga, Jet Propulsion Laboratory; Gopal Rao, Goddard Space Flight Center; Jeffrey Brewer, Marshall Space Flight Center; David Olsen, Kennedy Space Center; and Guillermo Gonzalez, Langley Research Center. ◆

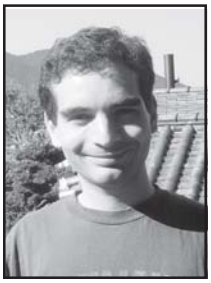
People

Promotion

Manuel Dominguez has been named chief, Safety, Health, and Environmental Division, of the Safety and Mission Assurance Directorate. Dominguez previously served as the division's deputy chief where he coordinated the reorganization of the Glenn Safety Office and the Environmental Management Office into the current division-level organization. Since joining NASA as a safety engineer in October 1990, Dominguez has gained extensive experience in safety engineering, fire protection, risk management, environmental management, occupational health program management, and supervision.

Dominguez

Honor



Accurso

Adrian Accurso, a NASA Undergraduate Researchers Program (USRP) intern from Dartmouth College, was invited to present a poster at the International Astronautical Conference in Fukuoka, Japan, compliments of the USRP Program and NASA Headquarters. Accurso, who interned in Glenn's Polymers Branch, presented a poster on his summer research on the development of fluorescent molecular sensors used for the detection of chemical and biochemical contaminants. The work is supported under the Alternative Fuel Foundation Technologies Subproject of the Low Emissions Alternative Power Project.

NASA STARS job application process changes

In October, NASA STARS began using new electronic tools for the Job application process. This change is being done under a federally mandated e-Government initiative called Recruitment One-Stop, which directs all Federal agencies to make the changes NASA is now implementing.

The USAJOBS resume became the basic application document, and USAJOBS provides job search and other applicant tools. These tools may be assessed directly through the USAJOBS site at http://www.usajobs.opm.gov or through links on NASAJOBS at http://nasajobs.nasa.gov. Applicants must use the "Job Search" link on NASAJOBS to see vacancies open only to NASA employees. In addition, the NASAJOBS site will continue to provide general employment information of interest to the NASA community.

For more information, visit "NASA STARS is Changing" at http://nasajobs.nasa.gov/NASAStars/transition.htm. ◆

New programming guide for GTV

Please note that the LINK/Glenn TV program guide has changed. Below is a list of the updated Glenn TV channel listing:

Channel Programming

4	CSPAN 1	9	NASA Education Services
5	CSPAN 2	10	NASA Media Services
6	Cable News Network (CNN)	11	NASA Mission Operations
7	Future	12	Glenn Video Bulletin Board
8	Future	13	Glenn Internal Programming

Satisfied customers

Continued from page 9

the respondents were in non-aerospace sectors—most notably battery, fuel cell, and energy storage manufacturers, as well as media and/or broadcasting companies. The other three quarters of the respondents were in aerospace—most notably aircraft and/or rotorcraft engine manufacturers, spacecraft and spacecraft engine manufacturers, and NASA program offices.

Ratings and comments were received for 12 questions, with one open-ended question. The key average rating, Overall Satisfaction, was 7.9 on a scale from 1 to 10. This compares favorably to the 2003 and 2001 survey ratings for that same question of 7.8 and 7.4, respectively. One key finding was that customers generally like what Glenn does, especially Glenn's NASA customers. Areas the Center's customers say need improvement are: capability information and marketing, market-sensitive pricing, and handling of customer complaints.

A copy of the survey report can be accessed at http://www-internal.grc.nasa.gov/ WWW/0170/local/customersurvey/index.html. ◆

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Editor.....**Doreen B. Zudell**
SGT, Inc.
Assistant Editor.....**S. Jenise Veris**
SGT, Inc.
Managing Editor.....**Kelly R. DiFrancesco**

DEADLINES: News items and brief announcements for publication in the December issue is noon, November 10. The deadline for the January issue is noon, December 9. Submit contributions to the editor via e-mail, doreen.zudell@grc.nasa.gov, fax, 216–433–8143, phone 216–433–5317 or 216–433–2888, or MS 3–11. Ideas for news stories are welcome but will be published as space allows. View us online at http://AeroSpaceFrontiers.grc. nasa.gov.

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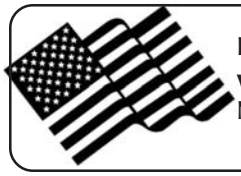

Remember our veterans on November 11

In Memory

Myron "Mike" Clifford, 75, who retired in 1992, recently died. While at Glenn, he worked as a research laboratory mechanic in the materials area.

Leroy Plank, 79, who retired in 1981 with 35 1/2 years of Federal service, recently died. He worked as a wind tunnel mechanic foreman.

Isidore Warshawsky, 94, who retired in 1990 with nearly 60 years of NACA—NASA service, recently died. The former chief of Lewis' Instrument Research Branch began his career at Langley before transferring to Cleveland to help establish NACA's new Aircraft Engine Research Laboratory. Warshawsky's expertise in measurement and (aircraft) instrumentation research was later utilized in an ad hoc committee, directed by the Lewis Research Planning Council, to help plan and expand the Center's capabilities for space flight launch vehicles. He was extremely dedicated to his work and the goals of the Agency—a fact that enabled him to be the first NASA employee to reach 50 years of Government service. Upon retirement, he became a member of an elite group of eight retirees initially awarded Distinguished Research Associate (DRA) status to continue their research without pay while using Center facilities and services. DRA membership is only offered to retirees who are nationally or internationally recognized for their distinguished contributions to scientific or technical research.

Warshawsky

Wilbert Metzger's military service was incorrectly reported and published in the October *AeroSpace Frontiers* In Memory section. Metzger served in the U.S. Air Force. ◆

Glenn gets fuel to facilities hit by Katrina

In the wake of Hurricane Katrina, NASA Glenn sprang into action by arranging for fuel to be transported to NASA's Stennis Space Center in Mississippi and Michoud Assembly Facility in Louisiana.

"We received a call from Headquarters requesting that Glenn help provide the facilities with fuel that was urgently needed for their generators and vehicles," explained Logistics Manager Jeanine Hanzel, SGT/Logistics and Technical Information Division. "We determined that it was faster and more cost effective to locate and procure fuel and carriers from a location closer to the facilities than NASA Glenn."

Glenn's Logistics personnel expediently arranged for seven tankers of diesel fuel and two tankers of nonleaded fuel to be delivered to Stennis, and two tankers of diesel fuel to Michoud.

"It took a lot of work and effort to address this request," Hanzel said, "but we were glad to be able to provide assistance to members of our NASA family in need." ◆

Retirements

Dean Bitler, Technology Transfer and Partnership Office, retired on September 30, 2005, with 45 years of Federal service, including 43 with NASA.

Bitler

Mary Dietz, Facilities Division, retired on September 30, 2005, with 37 years of Federal service, including 35 1/2 years with NASA.

Dietz

Gary Halford, Research and Technology Directorate, retired on September 3, 2005, with 40 1/2 years of NASA service.

Carol Mehallick, Office of Human Resources and Workforce Planning, retired on September 30, 2005, with 28 1/2 years of Federal service, including 21 1/2 with NASA.

Barbara Truffin, Facilities Division, retired on September 30, 2005, with 20 years of NASA service.

Jeffery Wagner, Environmental Management Office, retired on September 2, 2005, with 31 1/2 years of Federal service, including 27 1/2 years with NASA.

In Appreciation

Friends and Colleagues,
I would like to extend my gratitude of thanks for the cards, gifts, phone calls, visits, and donation of leave during my recovery. Without your continued support my recovery time could have been much more difficult. It is a blessing to have so many coworkers and friends who care. Thank you again.

—Donald Szmania

Glenn's recycling efforts going strong

BY DOREEN ZUDELL

Telephone books. Batteries. Fluorescent light bulbs. Compact disks. Wood. Glenn has come a long way since 1993 when it began recycling white office paper. Today, the Center collects 15 different items for recycling.

"Glenn has worked hard to reduce waste by instituting a recycling program that is rewarding both environmentally and financially," explained Michelle Kenzig, Recycle Program lead in the Logistics and Technical Information Division.

While Glenn's Recycling/Pollution Prevention Program encourages employees to recycle every day, the Center will celebrate the nationwide America Recycles Day on December 1.

"Throughout the day, we'll be offering our most current recycling program information, providing training opportunities, and distributing educational material," Kenzig said. "In addition, a variety of recycling-oriented vendors will be featured in the Administration Building Auditorium, sharing the latest recycling information and products. There will be fun activities, useful giveaways, and refreshments too."

Cardboard (flatboard) recycling bins are now located throughout the Center.

One of the areas that will be stressed during America Recycles Day is the importance of employees placing recyclables in their proper containers. To assist with this request, the Recycling/Pollution Prevention Program team has placed sorting stations for items such as newspaper, plastic, aluminum, and glass at convenient locations throughout the Center. There are also office paper bins and specialty bins for such items as scrap medal. Cardboard recycling bins, the latest addition to the array of recyclable items, are now located throughout the Lab as well.

AMERICA RECYCLES 2005

Kenzig explained that recyclable items such as office paper and plastic containers are discovered daily in solid waste (trash) containers. "One of the goals of recycling is to reduce the amount of solid waste at the Center, which is costly to haul away," she said. "Transferring items into our recycling program is a win-win situation because we spend less on solid waste removal."

Through the support of employees who do take the time to recycle, Glenn has generated the funds to purchase items such as picnic tables, bike racks, and informational materials for special events like the America Recycles Day. ◆

National Aeronautics and Space Administration
www.nasa.gov

John H. Glenn Research Center
Lewis Field
21000 Brookpark Road
Cleveland, Ohio 44135

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AeroSpace Frontiers is recyclable!